

New Focus on Combating Cancers in Developing World

By Peggy Eastman

radicating the global burden of cancer is increasingly becoming a third world issue. According to conventional myth, people in third world countries don't live long enough to develop cancer. But in actual fact, more than half of the nearly 13 million people diagnosed with cancer in 2007 were in developing nations, according to statistics released at a Web seminar for science writers co-hosted by the American Society of Clinical Oncology and the National Cancer Institute, both of which support cancercontrol programs in the third world.

Minimal early detection and prevention programs, fewer technologically up-to-date cancer centers, and a lack of trained health care professionals, oncologists, and oncology nurses all create obstacles to cancer control in the third world, speakers said.

They sounded alarms about cancer in third world countries previously raised at the 2006 International Union Against Cancer (UICC) World Cancer Congress and the 2006 13th World Conference on Tobacco OR Health, both held in Washington, DC. Speakers at those meetings stressed that not only is tobacco use a major cause of cancer in developing nations, but the contribution of infectious diseases such as the human papillomavirus (HPV) and hepatitis B to cancers in the developing world is also much higher than has generally been realized.

By 2010 developing nations are expected to account for 71% of global tobacco use, up from 66% in 1998. "Worldwide, people start smoking before they become adults," noted Deirdre Lawrence, PhD, an epidemiologist with NCI's Tobacco Control Research Branch.

Why So Relevant?

Why should the developed world care about cancer in the third world? Well, certainly for humanitarian reasons, but also because developing nations have much to teach developed countries about cancer, notes Joe Harford, PhD, Director of the Office of International Affairs in NCI's Office of the Director.

"Research done anywhere can help everywhere," he said, citing chemotherapy treatment for Burkitt's lymphoma, which grew out of research done in Africa. He noted that as third world countries become more developed and adopt western diets and lifestyles, this transition provides unique cancer research opportunities.

"Many US organizations, even though they may have 'American' in their name, are becoming much more internationally focused," added Dr. Harford, noting that the US National Cancer Act of 1971 specifically directed the United States to support cancer research beyond its geographical boundaries.

"Historically, cancer has not been thought of as a public health problem in the developing world," said ASCO President Nancy Davidson, MD, Professor of Oncology and Research Chair in Oncology at the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins University. But, said Dr. Davidson, today cancer is the second leading cause of death—after cardiovascular disease—in developing nations.

According to UICC statistics, estimated five-year cancer survival rates in less developed countries are 30 to 40 percent, versus 50 to 60 percent or more in developed countries.

By 2050, she noted, the number of cancer cases worldwide is expected to jump to 27 million, primarily due to the aging of the population globally and to continuing use of tobacco. In 2007 an estimated 7.6 million people died of cancer globally, and of these, 4.7 million were in developing nations.

Lynn Ries, MS, a health statistician for NCI's Surveillance, Epidemiology, and End Results (SEER) Registry, said that of the nearly 13 million people diagnosed with cancer worldwide in 2007, 6.7 million were in the developing world. In developing nations, lung cancer is the number one cancer among males, while prostate cancer is the number one cancer among men in the developed world.

Among women, breast cancer leads

in both developing and developed nations. Ms. Ries noted that stomach cancer is the number two cancer in developing countries, with extremely high rates in Hiroshima, Japan. Among women, she said, the World Health Organization has estimated that 80% of cervical cancer deaths occur in developing countries, with rates especially high in Uganda and Peru.

China

The rapid increase in lung and liver cancers in China is "quite alarming," said Tony Mok, MD, Professor in the Department of Clinical Oncology at Chinese University of Hong Kong.

"Cancer prevention has not been a top priority in our country," he added. Dr. Mok said China does have a vaccine program to protect against liver cancer, but he cited the lack of a tobacco control policy in his country and the high cost of the HPV vaccine as factors limiting that country's cancer-prevention efforts.

He noted that China produces about 39% of the world's tobacco, a statistic that tends to encourage use at home (China is the world's largest tobacco consumer). In addition, he explained, China lacks a national mammography screening program and there is only limited access to colon cancer screening.

Also limiting China's attempt at cancer control efforts, are the following factors, Dr. Mok said:

- Lack of specialized oncology nurses.
- Lengthy drug-approval process for new cancer drugs.
- High cost of cancer drugs, which limits patient access.

Added to these challenges, he said, is the fact that China has a dual health system composed of traditional Chinese medicine and evidence-based western medicine. "It's a very interesting mix," he said.

India

As in China, "there is a considerable cancer burden in India," said Ketayun Dinshaw, MD, a radiation oncologist who is Director of Tata Memorial Hospital and Centre in Bombay.

"Regrettably, 70 percent of cases report for diagnosis and treatment services in advanced stages," she added. Noting that cancer is "associated with a lot of fear and stigma" in India, Dr. Dinshaw said that while India has a national cancer control program, there are no organized cancer-screening programs such as mammography, primarily due to high costs.

Currently, she said, Tata has urban and rural outreach cancer control programs including workplace smokingcessation guidance. But, she noted, "Tobacco, overall, is a huge problem [whose control] is being resisted by the tobacco industry." And although smoking is banned in India's public places, the problem is monitoring and enforcement of this ban.

Africa: HIV Epidemic Draining Resources

In Africa, the HIV/AIDS epidemic is draining health care resources from other pressing health needs such as cancer control, said Clement Adebayo Adebamowo, MD, Professor of Surgery at University College Hospital in Lagos, Nigeria.

He noted that many African countries are "undergoing a transition marked by the twin epidemics of communicable and non-communicable diseases." Four leading cancers account for more than 80% of cancer cases in Nigeria: liver, prostate, breast, and HIV/AIDS-related malignancies.

"Currently available technologies could lead to eradication of a huge proportion of the cancer burden in Nigeria," he noted, citing the hepatitis B and HPV vaccines, cancer screening, and tobacco control.

Dr. Harford noted that developing countries have much to teach the developed world about cancers related to different dietary patterns and behaviors. In an increasingly unstable world, they also offer a good means of diplomacy through US cancer control aid, he said— "Our efforts are well appreciated."

'Twinning Arrangements'

Dr. Harford cited the value of "twinning arrangements" between US cancer centers and those in the developing world, and suggested that developing nations establish government-supported cancer centers of excellence.

Challenges to Cancer Control in Developing Countries

- Limited early detection and prevention efforts: Many developing countries lack the infrastructure and/or finances to support widespread screening and public education programs.
- constraints limit access to technologically advanced diagnostic and treatment facilities. Out of 53 countries in Africa, for example, only 25 have functional radiotherapy facilities.
- Shortage of health care professionals: There is a severe shortage of health care professionals, especially those specializing in cancer. In the Americas, there are about 25 health care workers for every 1,000 people; in Africa, that number is less than 3 per 1,000.

Source: ASCO and NCI

ASCO Initiatives

Dr. Davidson said that in the developing world ASCO is helping to build up international networks of cancer clinicians, supporting training programs for overseas professionals, and helping to develop practical cancer treatment guidelines that recognize the available resources, which are likely to be less plentiful and advanced compared with those in the United States.

She also cited the value of the International Development and Education Award (IDEA), an ASCO grants program launched in 2002 to help train the best and brightest young oncologists from low- and middle-income countries.